

Documentation for SMM / LIMS - Project Materials to Final Materials - 17

1. SCOPE

The intent of this chapter is to provide the Region personnel guidance on materials documentation from the beginning of a project to the closure of the project files when using SiteManager® Materials and the Laboratory Information Management System (SMM/LIMS). The materials documentation on a project needs to be accurate, complete, and processed within the official established timeframe after the issuance of the project's Final Acceptance Letter per Section 105.21(b). The Department has stipulated that the Final Material Documentation and Checklist Report (Form #473) will be signed by the Region Independent Assurance representative, Region Materials Engineer, Project Engineer, Project Tester, and the Resident Engineer within 30 calendar days of the project's acceptance to ensure that the quality of the project is maintained and to avoid legal and contractual conflicts.

2. GENERAL REQUIREMENTS

The procedures referenced are to be followed as indicated for CDOT projects that use electronic documentation. The materials documentation procedure begins at the Materials and Geotechnical Branch in the Documentation Unit with the creation of the Materials Documentation Records, CAR (CDOT Application for Reporting) Reports. These reports are as follows:

- CODE - Project Material Items Report
- Checklist - Owner Acceptance (OA) Sampling Checklist (Form #250) Report
- Checklist - Certification Checklist Report

The Region Materials Laboratory will review and edit the:

- Independent Assurance (IA) Sampling Checklist (Form #379)

Final Materials Documentation records are to be prepared and reviewed as found in this chapter. Details on documentation procedures for project items are contained in the applicable sections of this manual, and they cover most situations

encountered, but exceptions may require special attention.

3. CDOT PROJECTS-RESPONSIBILITIES & PROCEDURES

The Project Engineer, as the representative of the Chief Engineer, is responsible for the materials documentation on a project. The Project Engineer should take measures to ensure that the documentation procedures of the Department and the Region are followed. All referenced documentation activities within Sections 3.1, 3.2, and 3.3 of this chapter, are the responsibility of the Project Engineer or their designee.

3.1 BEFORE CONSTRUCTION

NOTE: Verify that the project materials tester assigned to the project has attended the CDOT SiteManager® Materials/LIMS Training class and has submitted an Access Request Form to OIT to gain access to SiteManager®, CDOT SAP Portal for CAR, and the VPN. OIT's e-mail address can be found on the CDOT Access Request Form. Allow a minimum of 10 business days for access to be granted. Once notice has been received that access has been granted, the Project Engineer must contact the Region Finals Administrator requesting project personnel be given Contract Authority for the project.

1. Review the Project Plans, Project Special Provisions, and Standard Special Provisions to become familiar with any modified materials and testing procedures.
2. Review the Owner Acceptance (OA) Sampling Checklist and Certification Checklist Reports to ensure that sampling frequencies and tests represented by each item match the Project Special Provisions and the Field Materials Manual. Any deficiencies or errors must be documented and reported by e-mail to the Central Laboratory Pavement Design Unit to have corrections made. The Project Engineer

shall be aware of the types of tests required and the frequencies of each test that the project Owner Acceptance (OA) testers will be performing.

3. The Region Materials Engineer or their designee will notify the Project Engineer that the Independent Assurance Sampling Checklist (Form #379) has been reviewed and is available in CAR. The Project Engineer shall be aware of the type of tests and frequencies of these tests that the Independent Assurance (IA) tester is required to perform. It is the Project Engineer's or their designee's responsibility to notify the Region Material Engineer's Independent Assurance technician of upcoming materials that will require Independent Assurance sampling and testing.
4. Project Tester shall setup the Project Material Books for the project. Follow the format in the Organizational Guide for Project Material Books in Section 8.0.
5. Review the chapter in the Field Materials Manual - Special Notice to Contractors. Alert the contractor to the requirements of this chapter and the materials that will require the submittal of the letter: **Certificate of Contractor's Compliance for Approved Products List (APL) and Quality Manufacturers List (QML) Selection**. Make available to the contractor the Certification Checklist Report to ensure that the contractor is aware of the items that will require submittals for Certificate of Compliance (COC) or Certified Test Report (CTR).
6. Contractor shall submit at the Preconstruction meeting a list of proposed materials and the manufacturer of each material. Project personnel must evaluate that the proposed materials are on the CDOT's Approved Products List or Quality Manufacturer List for applicable items, Per CP 11. CDOT's Approved Products List can be found at the site below. <https://www.codot.gov/business/apl>
7. Materials supplied to the project that are not required to be selected from the CDOT's APL, (or in some cases if less than 3 products are on the APL for the material) or QML, will need to be confirmed that the Producer/Supplier

(P/S) of the materials are in SiteManager® (SM) within the Producer/Supplier list. The material codes for the material they produce must be associated with that P/S. For any P/S and associated material codes that are not in SM, use the form "Add Producer/Supplier/Material Code" found at the link below, under the tab "Hints, Guides, and Links", and submit the completed form to the Region Materials Lab Manager or the Pavement Design Group at Central Lab-North Holly. Contact information can be found in "Contacts" on the SiteManager® Materials website. Downloading documents from this site to your computer is recommended.

<https://sites.google.com/a/state.co.us/site/manager-materials/>

8. Develop Random Sampling Schedules as per CP 75 for each item requiring random samples.
9. Obtain from the contractor any proposed concrete mix designs to be used on the project. Submit all required documentation for mix design approval with a completed CDOT Form #1188 to the Central Laboratory Concrete Unit. Obtain the most recent CDOT Form 1188 at: <https://www.codot.gov/library/forms>. Electronic submittal of documents is recommended.
10. Determine the requirement of aggregate samples needing to be submitted for Asphalt Job Mix Formula approval per CP 52. Contact the Region Materials Engineer to determine if sampling is necessary or if the materials have been recently tested for another project. For information on how to submit aggregate samples per CP 52, see Helpful Hints Issue #1. This document can be found at: <https://sites.google.com/a/state.co.us/site/manager-materials/> in the Hints, Guides, and Links tab.
11. Attend pre-construction, pre-pave, pre-pour, scheduling, and Owner Acceptance (OA)/Process Control (PC) meetings.
12. Coordinate with the Project Engineer, contractor, and PC technician to schedule a pre-testing meeting. Follow

CP 16, Pre-Testing Meeting Agenda (CDOT Form #1322) if applicable.

13. Check the CDOT Forms website to download the most recent revision of any forms to be used on the project. Forms requiring a serialized tracking number can be purchased at CDOT Bid Plans (303) 757-9313.

3.2 DURING CONSTRUCTION

1. Sample and Test according to the Random Sample Schedule (CP 75) for each applicable item. Be aware of the frequencies of tests on the Owner Acceptance (OA) Sampling Checklist Report.
2. Communicate daily with the Project Engineer and inspectors regarding placed quantities, activities, planned production, and material deliveries to ensure inspection and testing frequencies are met.
3. Project Engineer shall communicate with all project personnel the field-adjusted quantities from Contract Modification Orders (CMOs) and Minor Contract Revisions (MCRs).
4. When a CMO or MCR is approved and the Project Engineer has updated the items or quantities in SiteManager®, the CAR reports will automatically reflect the changes.
5. Alert the Region Material Engineer's IA technician that the revised quantities are now available on the CAR Report-Independent Assurance Sampling Checklist (Form #379).
6. Complete and file in the appropriate tabbed section all daily worksheets or CDOT Forms in the Project Materials Book. Document Sample ID's on each worksheet and/or CDOT Forms to identify the record.
NOTE: Summary forms such as CDOT Form #6, #58, #69, #156, #212, #323, #1290 are not required.
7. Complete documentation daily in SiteManager® Materials for sample records and LIMS test data entries.
8. Complete CDOT Form #626 daily for each item's test results and obtain contractor's signature verifying that the contractor has been notified of all test

results. Project Tester shall sign and date the form with the contractor. Original copy of signed form shall be given to the contractor, a copy shall be given to the Project Engineer, and one placed in the Project Materials Books in the corresponding item tab. Incentive/disincentive reports can be substituted for the Form #626. Other lab reports may also be given as notification of test results. Results sent as an e-mail attachment may also be used to verify that the contractor was notified of test results.

9. For materials submitted to Central Lab-North Holly, and all Region Labs for testing, Sample ID's are required on the forms and/or the CDOT sample tags #633 or the CDOT sample labels #634.
NOTE: Samples submitted without a Sample ID will not be accepted nor will testing be started until a sample record is completed in SiteManager®.
10. Verify and file in the appropriate tabbed section of the Certification Checklist Book, all Certificates of Compliance (COCs) or Certified Test Reports (CTRs) received for materials delivered. These documents are required with the delivery of the materials. Electronic copies of COCs/CTRs must be uploaded to each sample record using the attachment icon.
11. **CDOT Form #157s are not required to be completed for COC/CTR documentation.**
12. Inform the Region Materials Engineer's IA representative of upcoming materials to be sampled and tested per the CAR Independent Assurance Sampling Checklist (Form #379) at least three days prior to material placement.
13. Monitor the Owner Acceptance (OA) Sampling Checklist Report to ensure the testing frequencies are being met as material placement progresses.
14. Perform price adjustment calculations monthly prior to estimates in accordance with Sections 105.03 and 105.07 of the Standard Specifications. Verify price adjustments are reflected in the contract reports.
15. As exceptions to the Specifications occur, document each occurrence to facilitate the completion of CDOT Form

#473 Explanation of Exceptions, Page 2 at the closure of the project.

16. In LIMS, enter test results as soon as they become available.
17. Complete the review of test results and sample review as soon as possible to keep the Owner Acceptance (OA) Sampling Checklist Report and Certification Checklist up to date. Use search features in SiteManager® such as Sample Backlog Summary to track samples that are incomplete.
18. Participate in weekly material testing and scheduling meetings to be up to date on project materials incorporation and deliveries.

3.3 AFTER CONSTRUCTION

NOTE: Project Owner Acceptance (OA) personnel are to review the materials documentation 100% at this time.

1. In each item tab, arrange the completed and signed CDOT Form 626s first (if applicable), sort and arrange all documents within the item sequentially by date (beginning with the first test number, ending with the last test number).
2. Verify with the Project Engineer that the last progress estimate has been completed and authorized for payment. This ensures the quantities shown on the Quality Assurance Sampling Checklist Report (OA) are accurate.
3. Verify on the Owner Acceptance (OA) Sampling Checklist Report, that there are no incomplete tests by ensuring that the Sampled Tests to Date column is equal to the Completed Tests to Date column. Discrepancies must be reconciled by either completing the sample record or voiding it.
4. Verify that the minimum sampling and testing requirements have been met by checking the Completed Total Tests to Date column is equal to or greater than the Required Total Tests to Date column. After reconciling the columns, the Owner Acceptance (OA) Sampling Checklist Report, shall be printed for final documentation. Report must be signed and stamped by the consultant company's Professional Engineer if consultant tested. When project is tested by CDOT personnel, the Project Engineer must sign the report.
5. Deficiencies are required to be explained on the CDOT Form #473 Page 2-Explanation of Exceptions.
6. Verify the Completed Tests to Date for each test method equals the number of tests shown on the Incentive/Disincentive Report for asphalt paving items and concrete paving items, if applicable.
7. Verify the quantity for each element in the Incentive/Disincentive Report, matches the quantity for the item on the Owner Acceptance (OA) Sampling Checklist Report.
8. Notify Staff Materials Pavement Design OA/PC (previously QA/QC) Program Manager and the Region Materials Engineer that the incentive/disincentive for asphalt paving items for the project is complete and available in CAR. Print a copy of the QPM for the Project Books and obtain required signatures.
9. Check all inputs to Concrete 03 and the F-test and t-test documents for accuracy.
10. Concrete 03 and F-test and t-test documents must have the data files sent to Staff Materials Pavement Design OA/PC (previously QA/QC) Program Manager and the Region Materials Engineer. Print copies of these reports for the Project Materials Book, and obtain required signatures. Personnel Roster is available at: <https://sites.google.com/a/state.co.us/site/emanager-materials/> under the Contacts tab.
11. Copies of the notification emails sent and acknowledgement from the recipient, OA/PC (previously QA/QC) manager is required for the Project Books to verify the QPM data has been sent and received, or notification was received that the QPM CAR Report is complete.
12. Verify COCs and CTRs have been received by ensuring Certs Received to Date column on the CAR Certification Checklist, has a 1 or greater value, for any item showing a quantity paid. Items with a zero quantity, no explanation

required. Missing COCs/CTRs must be documented on page 2 of the Form #473.

13. Print the CAR Report - Sample Summary (when available) and place in the front of the Project Materials Books.
14. Pre-inspected items shall have CDOT Form #193, if applicable.
15. Check all Price Reductions and the supporting documents.
16. Collect the contractor's PC (previously QC) notebook for HMA, SMA and PCCP per the requirements of CP 12A and CP 12B respectively.

3.3.1 CDOT Form #473 Page 2, Explanation of Exception for CAR report: Owner Acceptance (OA) Sampling Checklist Report.

1. Document the date on page 2 of the CDOT Form #473 that the final documentation is complete. This date shall be the same date that appears on the final copy of the Owner Acceptance (OA) Sampling Checklist Report. See example on page 16 of this chapter.
2. Reference type of tests not used on the Owner Acceptance (OA) Sampling Checklist due to alternative methods completed.
3. Verify and document all shortages of required tests as indicated on the Owner Acceptance (OA) Sampling Checklist Report.
4. Explain quantities and incentive/disincentive dollars applied per the QPM reports.
5. For items that show a Zero Total Quantity Installed, no explanation is required as this indicates no material was installed on the project. Attach supporting documentation for items that have been deleted.
6. Explain and attach supporting documents for material with Percent of reduction in contract price (P) less than 3.
7. Explain and attach supporting documents for material with price reduction (P) greater than or equal to 3.
8. Explain and document all material repaired or replaced for (P) greater than 25.

NOTE: Reference to (P) values are addressed in Standard Specifications, Section 105.03.

3.3.2 CDOT Form 473 page 2, Explanation of Exception for CAR report: Certification Checklist Report.

1. Verify and document all missing COCs and CTRs as indicated on the Certification Checklist.
2. Verify the required stamps are applied to the COCs/CTRs and Contractor's COCs (See FMM chapter - Contractor's, Special Notice for more information) and that the required information is complete on each stamp.
3. For COCs/CTRs received, sample record in SiteManager® must have the documents uploaded through the attachment icon.
4. For items that show a Zero Total Quantity Installed, no explanation is required as this indicates no material was installed on the project. Attach supporting documentation for items that have been deleted.

4. CAR FINAL MATERIALS DOCUMENTATION and CHECKLIST (Form #473) REPORT and INDEPENDENT ASSURANCE SAMPLING CHECKLIST

1. The Region's Independent Assurance (IA) representative shall initiate the CAR report, Final Material Documentation Checklist (Form #473) page 1, by completing the top portion, signing the form, and obtaining the Region Materials Engineer signature.
2. The Region's IA representative will send the completed packet for Independent Assurance testing to the project personnel. This packet will contain the CAR Final Materials Documentation Checklist (Form #473) page 1, Independent Assurance Sampling Checklist, supporting documentation, and page 2 of the Form #473, Explanation of Exceptions, if applicable for IA testing.
3. The Region's IA representative is responsible for documenting any

deficiencies with the CAR Independent Assurance Sampling Checklist Report on the Form #473, page 2.

4. Ensure that differences between Independent Assurance tests results and Owner Acceptance (OA) test results if any, are explained.
5. Project personnel and the Resident Engineer's signature is required to complete Form #473. Instructions for completing the form can be found at: <https://sites.google.com/a/state.co.us/site/emanager-materials/>, under the Hints, Guides, and Links tab. The completed form must be part of the final documentation for the project.

5. INDEPENDENT REVIEW REQUIREMENT for FINAL MATERIALS DOCUMENTATION COMPLETION

The Region Finals Materials Documentation Coordinator in cooperation with each Resident Engineer will distribute the Materials Documentation to the Region Finals Administrator for review upon receiving the last Progress Estimate. This review provides a greater degree of independence and critical evaluation. The Finals Administrator or their designee will check the following items.

1. Verify on the Owner Acceptance (OA) Sampling Checklist that the number of tests shown under Required Total Tests to Date column has been met or exceeded in Completed Total Tests to Date.
2. Verify Sampled Total Test to Date column and Completed Total Test to Date column, match on the entire document. If any discrepancies are found between these two columns, the tester must be notified to reconcile the columns and the final should not be considered complete until the issue is resolved.
3. Verify that all required Certificates of Compliance (COCs) or Certified Test Reports (CTRs) have been received by reviewing the Certification Checklist Report. Certs Received to Date column must show a minimum of one for any item that has an amount shown in Total Installed Quantity for the item. Deficiencies must be explained on CDOT Form #473 page 2.

4. Project Testers are required to upload COCs/CTRs containing the contractors stamp (and other required documentation per the FMM chapter - Contractors, Special Notice and the Standards Specification Sections 106.12 and 106.13), into the attachment icon in SiteManager®. Using the CAR report - Summary of Samples, perform random checks in SiteManager® ensuring the documents are viewable in the attachment icon.
5. Verify on the Independent Assurance Sampling Checklist - Completed Tests to Date column, the required number of tests are completed. Ensure any deficiencies of tests are documented on the CDOT Form #473 page 2.
6. Differences between the IA and OA test results must be explained on CDOT Form #473 page 2 if applicable.
7. Verify the CAR Report - Final Material Documentation and Checklist has been completed and all required signatures are present.
8. Verify pre-inspected items have a CDOT Form #193, when applicable.
9. Check explanations and calculations for material accepted at full price, material with price reductions, and material removed and replaced.
NOTE: Reference to P is addressed in Standard Specifications, Section 105.03.
10. Verify the number of each test type completed on the Owner Acceptance (OA) Sampling Checklist, Completed Test to Date column, matches the number of tests shown on the Incentive/Disincentive Report for asphalt and concrete paving items, if applicable.
11. Verify the quantity for each element in the incentive/disincentive report matches the quantity for the item on the Owner Acceptance (OA) Sampling Checklist. Check all line items that apply to the element for total quantity paid.
12. Check all inputs to Concrete 03 and the F-test and t-test documents for accuracy.
13. Verify the incentive/disincentive payment is correct on the last progress estimate.
14. Verify that the documents for incentive/disincentive have been submitted to the Region Materials Engineer and Staff Materials Pavement Design Program

OA/PC (previously QC/QA) Manager by e-mail receipt on file.

15. CDOT Form #1324 must be completed and on file with Region Materials Engineer signature as per CP 16, if applicable. A copy must be in the Final Documentation packet.
16. As part of the final Progress Estimate, the Project Engineer has included all the documentary evidence needed to show that the contractor has complied with the requirements of the Contract Plans and Specifications for all materials used in accordance with the CDOT Field Materials Manual's Quality Assurance Procedures for Construction and Materials Sampling & Testing chapter and the Owner Acceptance (OA) Frequency Guide Schedule for Minimum Materials Sampling, Testing, and Inspection. The Region Finals Administrator is responsible for the development and signature of CDOT Form #325, Final Estimate Data, page 1 and 2, and the distribution per Table 1, and shall be included in this process.

If the existence of discrepancies or unresolved differences remains, a meeting will be scheduled with the Finals Administrator, Resident Engineer, and Project Engineer to resolve the issues.

The completion of the CAR report, Final Materials Documentation and Checklist (Form #473) page 1 and 2, is required within 30

calendar days after the final acceptance of the project in order to achieve a timely closure. All signatures must be completed on page 1, Form #473. Page 2, shall be the final version with updates made as missing item documentation is completed. Page 1 and 2 of the #473 is a requirement for the closure of each project.

6.0 CDOT FORM #211 - COMPLETION INSTRUCTIONS (Materials Documentation Request)

The Final Materials Documentation Project Closeout and the Final Materials Documentation Review or Audit activities will discover that occasionally required documents will be missing. Individuals performing the closeout, review, or audit should use this form or comparable e-mails to allow for a paper trail in the effort to obtain the missing documents. The original project personnel may have misplaced or lost a field materials worksheet or report. The contractor may have not forwarded required COCs and CTRs. Time is critical, indicate a due date and follow through immediately if that date has passed. If e-mail queries are being used, write in the "Subject", CDOT Materials Documentation Request or CDOT Form #211. Attach the resolution Form #211s or e-mails to the CAR Final Materials Documentation and Checklist Report.

7.0 DISTRIBUTION of MATERIALS DOCUMENTATION**Table 1. Documentation Distribution****CDOT SiteManager® Project Final Materials Documentation Packet**

Documentation Order	Form / Report	Distribution					
		#1	#2	#3	#4	#5	#6
CAR Report-Final Materials Documentation and Checklist	Form 473 page 1	Orig.	Copy	Copy	Copy		Copy
Report Explanation of Exceptions with supporting documentation (letters, CMOs, MCRs, etc.)	Form 473 page 2	Orig.	Copy	Copy	Copy		Copy
CAR Report - Owner Acceptance (OA) Sampling Checklist	Form 250	Orig.	Email		Email		Copy
CAR Report - Certification Checklist	-	Orig.	Email		Email		Copy
CAR Report - Independent Assurance Sampling Checklist with supporting documentation	Form 379	Orig.	Email	Copy	Email		Copy
Random Sampling Schedules	-	Orig.					
Price Reduction Documentation	-	Orig.					
OA Incentive/Disincentive documents	CAR Report if available	Orig.				Email	
PC (prev. QC) Data and/or test results notebook		Binder*					
Evaluation of Materials Testing (Consultant tested)	Form 1324 (CP 16)	Copy	Orig.		Copy		
Note: Orig. = original with signature Copy = copy with signature Copy* obtain copy of binder from PC company Email = notify by email CAR Reports are Complete							

Distribution

#1 Resident/Project Engineer Files

#2 Region Materials Engineer/Region Finals Administrator

#3 FHWA (Oversite Projects)

#4 Staff Materials Pavement Design Unit (Documentation)

#5 Staff Materials Pavement Design Unit OA/PC (previously QA/QC) Manager

#6 Records Center

8.0 ORGANIZATIONAL GUIDE FOR PROJECT MATERIALS BOOKS

SCOPE

The Field Materials Manual includes the “OA Frequency Guide Schedule for Minimum Sampling, Testing, and Inspection”. This is the essential document to use when determining which CDOT Forms, worksheets, COCs, CTRs, and miscellaneous documents are required.

Utilize this Organizational Guide for Project Materials Books to initially develop the books and the required sections for the Owner Acceptance Sampling Checklist Report and Certification Checklist Report books. Follow the Item numbering sequential order on each report to develop the order of tabs in each book.

The Project Materials Books shall be marked on both the cover and the spine to indicate which item numbers are contained in each binder. Main tabs will represent Item Numbers, with sub-tabs representing materials within the item. Documents shall be arranged in order of tests numbers or documents, oldest to newest (1, 2, 3, 4, etc.) or dates.

When the CAR report - Summary of Samples is available, 1 copy of the report is to be placed with the first Owner Acceptance (OA) book.

Final Materials Binder:

- CAR Report - Final Materials Documentation and Checklist, Page 1 and Page 2
- CAR Report - Owner Acceptance (OA) Sampling Checklist
- CAR Report - Certification Checklist
- CAR Report - Independent Assurance Sampling Checklist and supporting documentation
- CAR Report - Summary of Samples
- Random Sampling Schedules (copy - original to remain in item number tab)
- Price Reductions - if applicable
- QPM Data reports (copy - original to remain in item number tab)
- CDOT Form #1324, Evaluation of Materials Testing (CP 16) if applicable

CAR Owner Acceptance (OA) Sampling Checklist Book

Create the Project Materials book tabs in the order they appear on the Owner Acceptance (OA) Sampling Checklist.

Behind each tab, place field worksheets in numerical order starting with test #1. Place CDOT Forms pertaining to the item, Mix Designs, QPM's, Price Reductions, Random Schedules, and supporting documentation as necessary to complete the item.

CAR Certification Checklist Book

Create the Certification Checklist book tabs in order they appear on the CAR Report - Certification Checklist. Behind each item tab, place the documentation received from the contractor for that item. CDOT Form #157s **are not** required to be completed for COC/CTR documentation. The documentation received from the contractor must meet the requirements of Section 106.12 and 106.13 of the Standard Specifications for Road and Bridge Construction. Determine required documentation from the Field Materials Manual, OA Frequency Guide Schedule for Minimum Materials Sampling, Testing and Inspection, and the "Special Notice to Contractors" chapters. Each COC or CTR received must be uploaded into the attachment icon on each sample record in SiteManager® for the quantity and material the COC/CTR covers.

For materials from the APL or the QML that the contractor is electing to use on the project, it is recommended that the SiteManager® record be developed as soon as possible, due to the fact materials may expire from these lists at any time. Creating the record when the documentation is received ensures the record reflects the material appears on the corresponding lists at the time of approval.

NOTE 1: "Special Notice to Contractors" chapter shall be used to determine the requirements of the letter from the contractor to notify the project personnel of materials to be used on the project from the CDOT Approved Products Lists (APL) or the CDOT Qualified Manufacturers List (QML).

ATTENTION!

Referenced CDOT Materials Forms, except those indicated as "computer output", have been revised in 2015. All of these forms state: *Previous editions are obsolete and may not be used.* The use of Materials Forms older than what is indicated in Appendix O of the FMM is not authorized.

The examples of completed forms is ongoing as some will show examples and some will not.

COLORADO DEPARTMENT OF TRANSPORTATION MATERIALS DOCUMENTATION REQUEST	Project No. FBR 0404 050	Project Code (SA#) C18180
	Region 1	Date 03/17/2015
	Proj. location US 40 Over Sand Creek	

To: Scott Kraft Address: R1-Centennial S Engr
7328 South Revere Parkway
Centennial, CO 80112

Upon reviewing the above project for Materials Certification purposes, during the Finals Materials Documentation Checking Procedure, the following items were found to have shortages in materials documentation. Please review these shortages and reply by 08/01/2016.

Please return the original Form #211, for tracking purposes, with the missing documentation by 08/15/2016.

Item	Description	Materials documentation needed	Date received
206	Structure Backfill Class 1)	Explain no testing completed for CP80aa Explain shortages to T89 and T90	
403	Hot Mix Asphalt (Grading S) (100) (PG 64-22)	Explain shortages to CP48aa, CPL5112, CPL5114, and CPL5115	
601	Concrete Class D (Bridge)	Explain shortages to C39-28	
403	Hot Mix Asphalt (Grading S) (100) (PG 64-22)	Missing COC's for PG64-22	
412	Concrete Pavement (6 Inch)	Missing COC for Epoxy Coating, Tie Bar, for Line Item 0325 and 0330	
602	Reinforcing Steel	Missing COC for Steel, Reinforcing	
608	Concrete Curb Ramp	Missing COC for ADA Truncated Dome	

Signed Denny Maurer	Title EPST III, Materials	Date 07/25/2016
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Distribution:
☐ Resident Engineer
☐ Project Engineer
☐ Project Tester
☐ Materials Project Files

CDOT Form #211 3/04

COLORADO DEPARTMENT OF TRANSPORTATION QUALITY ASSURANCE SAMPLING CHECKLIST	Contract No. IM0761-208	Region 6	Contract ID C18025
	Contract Location I-76 FROM FEDERAL TO I-25		
	Contractor BRANNAN SAND AND GRAVEL, LLC	Award Date 04/19/2012	Ad Date 03/01/2012
			Field Materials Manual Year 2012

SM Report 250 Revision Date 08/04/2014 Production

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** Refer to Frequency Guide Schedule for further instructions.

Date Printed 5/6/2015

Project	Item Code	Item Description	Item Unit	Quantity Reported to Date	Quantity Authorized to Date	Total Installed Quantity				
18025-BID	Matl Code	Material Description Test Method	Material Unit	Conversion Factor						
			Sample Type	Rate / Frequency	Plan + CO Qty					
		Number of tests on this row based on summed quantity:								
18025-BID	203-00060	Embankment Material (Complete In Place)	CY	1.0000						
203.03.01.01	Embankment, Soil									
CP21	CP21 Mechanical Analysis of Soils	QA	%	0540	1	1	0	1	0	-1
CP23	CP23 Max Dry Density & Opt Moisture of Soil-Rock Mixture	QA	%	0540	1	1	0	1	0	-1
CP25	CP25 % Relative Compaction of Soils & Soil-Rock Mixtures	QA	%	0540	1	1	1	0	1	0
CP80	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	QA	1/2000	0540	1	1	0	1	0	-1
CPL3101	R-Value & Expansion Pressure of Soils or Agg.; Hveem Slab.	QA	%	0540	1	1	0	1	0	-1

COLORADO DEPARTMENT OF TRANSPORTATION		Contract No. IM0761-208	Region 6	Contract ID C18025
Certification Checklist		Contract Location I-76 FROM FEDERAL TO I-25	Award Date 04/19/2012	Ad Date 03/01/2012
		Contractor BRANNAN SAND AND GRAVEL, LLC		Field Materials Manual Year 2012

SM Report CERT Revision Date: 03/6/2015

*Refer to Frequency Guide Schedule for further instructions.

18025-BID I-76 FEDERAL TO I-25

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Date Printed 5/6/2015

Project	Item Code	Item Description	Material Unit	Conversion Factor	Special Instructions	Quantity Reported to Date	Total Installed Quantity	Certs Received to Date	Certs (+/-) to Date
18025-BID	207-00205	Topsoil	CY	1.0000		325.00	325.00		
	207.02.01.00	Topsoil	CERT						
18025-BID	208-00034	Gravel Bag	COC	*"	0035	88.00	88.00	1	0
	208.02.19.00	Erosion Control, Gravel Bag, Fabric	LF	1.0000					
18025-BID	208-00052	Storm Drain Inlet Protection (Type 2)	COC	*"	0040	1	1	0	1
	208.02.08.01	Erosion Control, Storm Drain Inlet Protection	EACH	1.0000					
18025-BID	210-01130	Reset Guardrail Type 3	COC	*"	0050	1	1	0	1
	710.05.01.00	Guardrail, W Beam Rail, Galvanized	LF	1.0000					
18025-BID	212-00006	Seeding (Native)	COC	*"	0320	1	1	0	1
	212.06.01.00	Seed, Native	ACRE	1.0000					
18025-BID	212-00032	Soil Conditioning	COC	*"	0075	1	1	0	1
	212.02.02.00	Soil Conditioning	ACRE	1.0000					
18025-BID	216-00201	Soil Retention Blanket (Straw-Coconut) (Biodegradable Cl)	COC	*"	0080	1	1	0	1
			SY			6100.00	6100.00		

COLORADO DEPARTMENT OF TRANSPORTATION INDEPENDENT ASSURANCE SAMPLING CHECKLIST	Contract No. IM0761-208	Region 6	Contract ID C18025
	Contract Location I-76 FROM FEDERAL TO I-25		
	Contractor BRANNAN SAND AND GRAVEL, LLC	Award Date 04/19/2012	Ad Date 03/01/2012
			Field Materials Manual Year 2012

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 *R Refer to Frequency Guide Schedule for further instructions. Date Printed 5/6/2015

Project	Item Code	Item Description	Item Unit	Quantity Reported to Date	Quantity Authorized to Date	Total Installed Quantity									
18025-BID	203.03.01.01	Material Description	Material Unit	Conversion Factor	Special Instructions										
		Test Method	Test Description	Sample Type	Rate / Frequency	Line Item No.	Plan + CO Qty	Estimated Required Tests	Required Tests to Date	Sampled Tests to Date	Estimated Tests Remaining	Completed Tests to Date	Tests (+/-) to Date		
	203.03.01.02	Embankment, Rock	CP80	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0
	203.03.01.02	Embankment, Rock	CP80	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0
	18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0
	18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
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18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
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18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
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18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
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18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.02	Embankment, Rock	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/10000	0540	1.0000	1	0	0	1	0	0	
															Test Method
18025-BID	203.03.01.01	Embankment, Soil	CY	In-Place Dens - Moisture of Soil - Soil-Agg; Nuclear Method	IAT	1/100000	0540	1.0000	1	0	0	1	0	0	
															Test Method

COLORADO DEPARTMENT OF TRANSPORTATION		Contract No. IM 0701-220	Region 3	Contract ID C19646
Final Materials Documentation and Checklist		Contract I-70 FROM MP 86.5 TO 97		
Location				
<p>The Independent Assurance Sampling Schedule for this project has been substantially followed and the test results of the IA samples are in reasonably close agreement with the project acceptance (QA) sample test results. Exceptions to this statement have been previously commented on and documented when the test results were reported or are explained on an attached sheet.</p> <p>Independent Assurance (IA) samples were tested with independent equipment unless noted in Explanation of Exceptions, see attached.</p>				
(circle one)	Method of Acceptance for Item 403	Completed and signed by IAT Tester		
SYSTEM / PROJECT / COMBO BASIS	IA Summary Report (Report #379), IA Explanation of Exceptions is attached	Completed and signed by IAT cross checker		
YES NO	Project Materials Lab Inspected by: (per CP 10)	Date:		
YES NO	Final IA Review (by Region Materials Engineer)	Signed by RME		
Prepared by signature	Name, printed	Title		
Date:	Signature	Date		
		Checked by signature		
		Date:		
(circle one)	As Completed Report 250/Quality Assurance Sampling Checklist and Report Cert/Certification Checklist	Completed and signed by tester		
YES NO	Random Sampling Schedules (as completed for all required elements) are attached.	Checked by (circle one)		
YES NO NA	Quality Control Notebooks for HMA & PCCP (per CP 12A & 12B) are attached.	YES NO		
YES NO NA	Buy America Certificates are attached.	YES NO NA		
YES NO NA	Pavement Structural Design Data Window is complete. (replaces the Roadway Surface Accomplishment Report (RSAR))	YES NO NA		
	Final Materials Documentation Review (by Project Engineer)	Completed and signed by cross checker		
Prepared by signature	Name, printed	Title		
Date:	Signature	Date		
		Checked by signature		
		Date:		

Explanation of Exceptions

Explanation of Exceptions with all required supplemental documents are attached.

Price Reduction Calculations with supporting documentation are attached.

This is to Certify that: The results of the tests on the acceptance samples indicate that the material incorporated in the construction work, and the construction operations controlled by sampling and testing, were in conformity with the approved plans and specifications; and such results compare favorably with the results of the Independent Assurance sampling and testing. This document is complete, includes all attachments, and has been reviewed and accepted.

Project Engineer	Name, printed	Title
Signature	Date	

Resident Engineer	Name, printed	Title
Signature	Date	

Distribution

o: Resident Engineer (Included with Final Documentation)

xc: Region Materials Engineer

Region Finals Engineer

FHWA Division Administrator

Documentation Unit, Materials & Geotechnical Branch

Central Files

SM Report 473 Revision Date 08/22/2014

COLORADO DEPARTMENT OF TRANSPORTATION LETTER OF FINAL MATERIALS CERTIFICATION - EXPLANATION OF EXCEPTIONS	Project No. FBR 0404-050	Page 2 of 2
	Contract ID C18180	Acceptance date 07/15/2015
	Project Location US 40, Over Sand Creek	
	Contractor Hamon Contractors	

(Required to be attached to Form #473 Page 1 with text below.)

As of August 23, 2015 Final Documentation is complete.

OWNER ACCEPTANCE CHECKLIST:

Item 203 Embankment: Material was excavation only and disposed of offsite, no testing required.

Item 403 HMA SX (75):

- (1) CP 82, 2 tests completed representing 500 tons each.
- (2) CP 81, 51 tests completed representing 26,758 tons.
- (3) CP 44, 1 test completed to represent 500 tons. Test #23 completed using CP 81 was 2V out, contractor elected to perform CP 44 as allowed per specification.

Total tons: 31,758

Incentive of \$35,562

(4) Test Methods not needed: CP 85 and CP 85c, used CP-L 5120 and CP-L 5120c.

Item 304 ABC CL 6: No quantity paid, no test required.

Item 604 Inlet Type D (10 ft): Precast, no concrete testing required. Backfill was tested (Structural Backfill CL 1 & 2).

CERTIFICATION CHECKLIST:

Item 214 Deciduous Tree: None placed on project, no COC required.

Item 604 Inlet Type D (10 ft): Precast, no curing compound needed, no COC required for cure.

Item 627 Preformed Plastic Pavement Marking (Inlaid): No quantity paid, no COC required.

Jimmy Doe

Materials Manager, Denver Residency